

REMARKS

Summary Of Office Action

Claims 1-87 are pending in this application. Claims 10-30, 40, 48-65, 78-80, 82, and 87 have been withdrawn pursuant to a species election.

Claims 1-5, 7, 41-47, 72-77, 81, and 83-86 were rejected under 35 U.S.C. §102(b) as being anticipated by Standerwick et al. U.S. Patent No. 3,072,118 (hereinafter "Standerwick"). Dependent claims 6, 31-34, and 66-69 were rejected under 35 U.S.C. §103(a) as being obvious from Standerwick. Dependent claims 8, 9, and 37-39 were rejected under 35 U.S.C. §103(a) as being obvious from Standerwick in view of Letendart et al. U.S. Patent No. 6,432,109 (hereinafter "Letendart"), and dependent claims 35, 36, 70, and 71 were rejected under 35 U.S.C. §103(a) as being obvious from Standerwick in view of Bittner, Jr. U.S. Patent No. 2,055,024 (hereinafter "Bittner").

Summary Of Applicant's Reply

Applicant has amended dependent claim 6 to change dependency and to make grammatical changes unrelated to patentability. No new matter has been added.

Reconsideration of this application in view of the following remarks is respectfully requested.

Rejections Of Claims Under 35 U.S.C. § 102(b)

Claims 1-5, 7, 41-47, 72-77, 81, and 83-86 were rejected under 35 U.S.C. §102(b) as being anticipated by Standerwick.

These rejections are respectfully traversed.

Independent Claim 1

Independent claim 1 defines a fragment manipulator having a “bone engaging end configured to ... attach to a bone fragment such that the bone fragment can be pulled toward the reduction platform to reduce the fracture” (emphasis added).

The Examiner stated that “a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art” (August 18, 2006 Office Action, page 5).

Applicant’s recitation does indeed result in a structural difference between the claimed invention and Standerwick.

Standerwick does not disclose fixation apparatus that can reduce bone fractures. In particular, Standerwick does not disclose that any of its mounting, fixing, or stabilizing pins are configured to pull a bone fragment upward.

Structurally, Standerwick only discloses that its mounting/fixing pins have a “bone-piercing drill point 33” (Standerwick column 2, line 51) and that its stabilizing pin 10 “comprises merely a sharp conical point 46” (*id.* at column 3, lines 8-9). Standerwick’s FIG. 1 shows that structurally drill point 33 and conical point 46 are only pointed.

However, for these pins to be used to reduce a bone fracture, they must have some structure, such as, for example, threads, ribs, or other aggressive means, that provides sufficient

axial pull resistance in order to pull a bone fragment upward towards head frame 1. As shown and disclosed, Standerwick's pins do not.

In contrast, applicant teaches that his fragment manipulator has a bone engaging end configured with two types of threads:

“The increasing diameter threads of the first portion 116 are adapted to self engage and penetrate the fractured bone piece without pre-drilling of a pilot hole. The uniform diameter threads of the second portion 118 are adapted to securely attach the fractured bone fragment once engaged.”

Applicant's specification, page 7, line 32, to page 8, line 1.

Plainly, there is a structural difference between the tips of Standerwick's pins and the bone engaging end of applicant's fragment manipulator.

The Examiner also stated that “[i]f the prior art structure is capable of performing the intended use, then it meets the claim” (August 18, 2006 Office Action, page 5).

Not all self-drilling tips and not all bone-piercing drill points are capable of being used to reduce bone fractures.

The drill points and sharp conical points of Standerwick's mounting, fixing, and stabilizing pins cannot be used to perform bone reduction, because they have no structure to offer sufficient (if any) resistance to axial pull.

Thus, the mounting, fixing, and stabilizing pins of Standerwick do not meet applicant's claim 1 limitation of a “bone engaging end configured to ... attach to a bone fragment such that the bone fragment can be pulled toward the reduction platform to reduce the fracture.”

The Examiner further stated that “such threaded tips and drill point tips are equivalent self-drilling structures” that “merely involve[] substitution of functionally equivalent structures known in the art” (August 18, 2006 Office Action, page 3).

Applicant strongly disagrees.

They are not functionally equivalent structures.

Standerwick’s drill points and sharp conical points perform the function of penetrating a skull in order to mount and stabilize head frame 1, while the bone engaging end of applicant’s invention performs the function of resisting axial pull away from the skull in order to reduce a bone fracture.

Furthermore, because Standerwick does not disclose fixation apparatus for reducing bone fractures -- an objective of Standerwick being to “provide an element which may be fixed with greater rigidity to the skull” (Standerwick column 1, lines 46-47), Standerwick provides no motivation whatsoever to a person of ordinary skill in the art for modifying its mounting pins to include, for example, applicant’s multi-diameter threads of the bone engaging end.

Standerwick therefore does not anticipate or render obvious the fracture reduction assembly defined in applicant’s claim 1.

Independent Claim 41

Similarly, independent claim 41 defines a fragment manipulator that has “a bone engaging end having a thread attachable to a bone fragment such that the bone fragment can be

pulled toward the reduction platform as the fragment manipulator translates” (emphasis added).

For the reasons discussed above with respect to claim 1, Standerwick does not disclose or suggest a fragment manipulator having such a bone engaging end. Thus, Standerwick does not anticipate or render obvious applicant’s claim 41.

Independent Claim 72

Independent method claim 72 includes the following:

“locating at least a portion of a bone to be reduced,” and

“continuing to rotate the nut so that the fragment manipulator is drawn up through the nut to reduce the located bone portion attached to the fragment manipulator.”

Emphasis added.

The Examiner stated that “with respect to the method claims, it is noted that ‘reduction’ is only mentioned in the preamble and not in any positive steps of the method” (August 18, 2006 Office Action, page 6).

Applicant disagrees and respectfully requests the Examiner to review claim 72.

Moreover, as discussed above, Standerwick does not disclose a method of craniofacial reduction, much less applicant’s method. In particular, Standerwick does not disclose anything about locating a portion of a bone to be reduced and rotating a nut to pull up a fragment manipulator to reduce the located bone portion.

Thus, Standerwick does not anticipate or render obvious applicant’s method as defined in claim 72.

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In sum, Standerwick's fixation apparatus does not meet the limitations of either independent claim 1, 41, or 72. Therefore, these claims are not anticipated by Standerwick and should be allowable.

For at least the above reasons, dependent claims 2-5, 7, 42-47, 73-77, 81, and 83-86, which each depend either directly or indirectly from independent claim 1, 41, or 72, should also be allowable (i.e., dependent claims are allowable if their independent claim is allowable).

Accordingly, applicant respectfully requests that the rejections of claims 1-5, 7, 41-47, 72-77, 81, and 83-86 under 35 U.S.C. §102(b) be withdrawn.

Rejections Of Dependent Claims Under 35 U.S.C. § 103(a)

Dependent claims 6, 31-34, and 66-69 were rejected under 35 U.S.C. §103(a) as being obvious from Standerwick; dependent claims 8, 9, and 37-39 were rejected under 35 U.S.C. §103(a) as being obvious from the combination of Standerwick and Letendart; and dependent claims 35, 36, 70, and 71 were rejected under 35 U.S.C. §103(a) as being obvious from the combination of Standerwick and Bittner.

These rejections are respectfully traversed.

For at least the reasons discussed above with respect to independent claims 1, 41, and 72, dependent claims 6, 8, 9, 31-39, and 66-71, which each depend directly or indirectly from one of the independent claims, are not obvious from Standerwick alone or in combination

with Letendart or Bittner (i.e., dependent claims are allowable if their independent claim is allowable).

Moreover, claim 6 defines a bone engaging end having a first portion having threads that increase in diameter and a second portion having uniform diameter threads. Neither Standerwick, Letendart, nor Bittner discloses or suggests such a bone engaging end. Furthermore, none of those references provides any motivation whatsoever for modifying the “bone-piercing drill point” of Standerwick (column 2, line 51) with applicant’s first and second portions.

Accordingly, applicant respectfully requests that the rejections of claims 6, 8, 9, 31-39, and 66-71 under 35 U.S.C. §103(a) be withdrawn.

Withdrawn Dependent Claims 10-30, 40, 48-65, 78-80, 82, and 87

Dependent claims 10-30, 40, 48-65, 78-80, 82, and 87 were withdrawn from consideration pursuant to a species election.

Applicant respectfully requests that these dependent claims be rejoined to the application in view of the allowability of their respective independent claim and submit that these claims are also allowable (i.e., dependent claims are allowable if their independent claim is allowable).

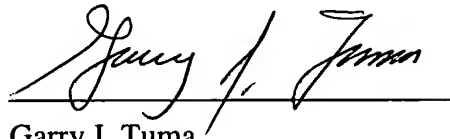
Conclusion

The foregoing demonstrates that claims 1-9, 31-39, 41-47, 66-77, 81, and 83-86 are allowable. Therefore, subject to disposition of withdrawn claims 10-30, 40, 48-65, 78-80,

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82, and 87, this application is in condition for allowance. Reconsideration and allowance are accordingly respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Garry J. Tuma", is written over a horizontal line.

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